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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/528,010

11/16/2005

Karl-Heinz Danger

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116 7590 12/26/2008
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EXAMINER

LEWIS, RALPH A

ART UNIT

PAPER NUMBER

3732

MAIL DATE

DELIVERY MODE

12/26/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/528,010	Applicant(s) DANGER ET AL.	
	Examiner Ralph A. Lewis	Art Unit 3732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 26-34, 36-45, 47, 49 and 51-63 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 26-34, 36-45, 47, 49, 51-63 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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Objection to the Claims

Claims 26 and 51 are objected to under 37 CFR 1.75(i) which requires each element or step of the claimed invention to be separated by a line indentation.

Rejections based on Prior Art

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 26-34, 36, 42-45, 47, 49, 51-55 and 57-61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leins et al (US 5,641,251) in view of Lund et al (US 5,447,208) and Shiokawa et al (US 5,433,655).

Leins discloses a ceramic drill bit comprised of a working tip member and a shaft. The tip is capable of being detached from the shaft with a cutting tool. The ceramic drill bit includes cutting edges 3a and 3b which consist of the ceramic material. The Leins drill bit meets all the limitations of independent claims 26 and 51 except with those specifying a surface roughness for the drill bit of between 0.5 and 6 microns. Leins does not disclose the surface roughness of the drill bit. Lund et al, however, teaches that it is desirable for the cutting edges of drill bits to have a surface roughness of 10 μ or less (abstract) as such smooth cutting surfaces lower the friction at the cutting face, reduce adhesion of chips and reduces flaw sites in the cutting face (note column 3, line

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65- column 4, line 2). Likewise Shiokawa et al teach that such smooth cutting surfaces increase the accuracy of the surface being machined and increase the lifetime of the tool (note abstract and column 5, lines 14-21). To have constructed the Leins ceramic drill bit so that the surface roughness of the cutting edges was within the range claimed would have been obvious to one of ordinary skill in the art in view of the teachings by Lund et al and Shiokawa et al who teach that roughness within the range claimed are beneficial in improving the efficiency and lifetime of the tool. In regard to claim 43 it would have been obvious to have secured the Leins ceramic drill bit in a metal chuck.

Claims 26-29, 34, 36, 43, 45, 47, 51, 52, 54, 55, 57, 58, 60 and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adefris et al (US 6,319,108).

Adefris et al discloses rotating instrument having a working member 10 having ceramic abrasive components 18 forming cutting edges and/or tothing (Note Figure 1). The abrasive components are disclosed as having a surface roughness of less than about 1.5 μm (note column 3, lines 23-25). While not illustrated it is disclosed that the disclosed disc is to be spun about a perpendicular center axis (note column 3, line 20). To have merely provided a shaft for the disclosed spinning use of the Adefris et al disc would have been obvious to one of ordinary skill in the art.

Claims 37-41, 56, 62 and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leins et al (US 5,641,251) in view of Lund et al (US 5,447,208) and

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Shiokawa et al (US 5,433,655) as applied above and in further view of in view of Kumar (US 2002/0028422).

Kumar teaches that it is desirable to provide hardened coatings on dental burrs having cutting edges in order to improve their resistance to wear and to provide such dental tools with depth marks 44 in order to aid the dentist in determining the depth of the cut. To have coated dental burrs in order to improve their wear with the lio et al hardened coating for tool bits and provided such tools with markings so that the dentist could determine the depth of penetration as is taught by Kumar would have been obvious to one of ordinary skill in the art.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry concerning this communication should be directed to **Ralph Lewis** at telephone number **(571) 272-4712**. Fax (571) 273-8300. The examiner works a compressed work schedule and is unavailable every other Friday. The examiner's supervisor, Cris Rodriguez, can be reached at (571) 272-4964.

R.Lewis
December 21, 2008

/Ralph A. Lewis/
Primary Examiner, Art Unit 3732